ROCK ISLAND DAM

ADULT FISH PASSAGE INFORMATION

The location of adult fish passage facilities is shown on the attached general site map of Rock Island Dam.

ADULT PASSAGE FACILITIES

Adult passage facilities at Rock Island are comprised of three fishways: a right bank fishway, a left bank fishway and a middle fishway. The right bank fishway is located at the south end of the second powerhouse. The middle fishway is located in the approximate center of the spillway. The left bank fishway is located at the north side of the first powerhouse. Each facility includes a counting station, auxiliary water supply, attraction water system with entrances and an exit.

Construction activities and associated modification in operations have potential for impact on adult passage at Rock Island Dam. Construction schedules and activities will be reviewed in advance to limit this potential. Activities which have a high probability of affecting passage will be scheduled during nighttime hours.

ADULT MIGRATION TIMING

For the purpose of operation and maintenance, primary fish passage is considered to occur from March through November. Species primary passage periods at Rock Island are:

Spring Chinook	April 18 - June 23
Summer Chinook	June 24 - September 1
Fall Chinook	September 2 - November
Steelhead	April - March
Coho	August - November
Sockeye	Late June - August 15

OPERATING CRITERIA FOR ADULT PASSAGE

SPILL MANAGEMENT FOR ADULT PASSAGE

1. Spill not provided for juvenile passage will be shaped to avoid delay of upstream migrants according to agencies, tribes, and PUD agreement.

2. Spill shaping requests are based on the tribes and agencies objective of achieving 100% passage efficiency without delay. All spill not provided for juvenile passage shall be shaped in accordance with the criteria developed by the fishery agencies and tribes.

Rock Island Adult Spill Criteria for Spill of 40 Kcfs or Less

Gate Number																Total Feet Open
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
	3																3
	3		3														6
	3		3			3											9
	3		4			3											10
	3		4			3							6				16
	3		4			3							6		5		21
	3		4			3			3				6		5		24
	3		4			3		3	3				6		5		27
	3		4			3		3	3				5	5	5		31
	3		4			3		3	4				7	5	5		34
	3		4			3		4	4				8	5	5		36
	3		4			3		5	4				8	6	5		38
	3		4			3		5	5				8	7	5		40
	3		4			3		6	6				8	7	5		42
	3		4			3		6	7				9	7	5		44
	3		4			4		7	7				9	7	5		46
	3		4			4		8	8				9	7	5		48
	3		4			4		9	8				9	7	5		49
	3		4			4		10	9				9	7	5		51
	3		4			5		11	9				9	7	5		53
	3		4			6		11	9				9	7	6		55
	3		4			6		11	10				9	8	6		57

Notes:

1. Minimum gate opening for shallow and deep gates are reflected.

2. This criteria should be employed when juvenile criteria is not in effect.

3. Mid-range and higher spill have not been provided revised spill configuration gate settings because of limited operation flexibility.

4. Gates 16, 18, 20, 21, 23, 26-28, and 32 are gantry operated and can only be left fully open or closed.

5. This criteria is only applicable to lower spill level (approximately 40 Kcfs or less).

OPERATING STANDARDS FOR ADULT PASSAGE FACILITIES
Reviewed February 1990

LEFT BANK FISHWAY

Fish Ladder

Water depth over weirs: 1.0 to 1.2 feet.

Entrances

Head: 1.0 to 1.5 feet
Operate two entrances at all times
Weir depth 6 foot minimum for each (below tailwater)

Transportation Channel (Between Entrances and Ladder)

A transportation velocity of 1.5 to 4.0 feet per second (prefer 2.0 fps) shall be maintained in all channels and the lower ends of the fish ladders.

Trashracks

Visible buildups of debris shall be cleaned immediately from ladder exit and attraction water intake trashracks.

Visible buildups of debris shall be cleaned immediately from picket leads at the counting window.

Staff Gauges & Water Level Indicators

Shall be readable at all water levels encountered during passage periods.

Staff gauges or water level indicators shall be located upstream and downstream from entrances, at a convenient location for viewing along the ladder.

Staff gauge or water level indicators shall be consistent with water surface readings on the computer.

MIDDLE FISHWAY

Fish Ladder

Water depth over weirs: 1.0 to 1.2 feet

Entrances

Head: 1.0 to 1.5 foot
Main 4 foot wide entrance to be open continually

Weir depth: 8.5 minimum (below tailwater)
The left 2 foot-wide side entrance to be fully opened at all times

Trashracks

Visible buildups of debris shall be cleaned immediately from ladder exit and attraction water intake trashracks.

Visible buildups of debris shall be cleaned immediately from picket leads at the counting window.

Staff Gauges & Water Level Indicators

Shall be readable at all water levels encountered during passage periods.
Staff gauges or water level indicators shall be located upstream and downstream from entrances, at a convenience location for viewing along the ladder.

Staff gauge or water level indicators shall be consistent with water surface readings on the computer.

SECOND POWERHOUSE FISHWAY

Fish Ladder

Water depth over weirs: 1.0 to 1.2 foot

Wing gates at each entrance allow 3.5 foot wide opening when fully open. Minimum opening of wing gates shall be 3.0 foot, which occurs when gate deflections are 16 degrees from the fully open position.

At the left powerhouse entrance, LPE1 shall be continuously open.

The two right powerhouse entrances (RPE1 and RPE2) and the tailrace entrance (TRE) shall be continuously open. High velocity jet at RPE2 shall be operated at and above tailwater elevation 570 (USC+GC). The ball valve (MOV-ROZ) shall be fully open during that time. It is operated from the control room.

Transportation Channel

A transportation velocity of 1.5 to 4.0 feet per second (prefer 2.0 fps) shall be maintained in all channels and the lower ends of the fish ladders.

Trashracks

Visible buildups of debris shall be cleaned immediately from ladder exit trashrack.

Visible buildups of debris shall be cleaned immediately from picketed leads at the counting window.

Traveling Screens at auxiliary Water Intake

At least one of two traveling screens will be operating while the ladder is operational, and attraction jet at RPE2 is on. Operation of both traveling screens required when attraction water pumps are non-functioning and gravity water must be used. Bypass ports for traveling screens to be checked for debris and to ensure lights operate. Adequate bypass flow to be maintained from bypass pipe in tailrace.

Staff Gauges and Water Level Indicators

Should be readable at all water levels encountered during passage periods. Staff gauges or water level indicators shall be located upstream and downstream from entrances, and at a convenience location for viewing along the ladder.

Staff gauges or water level indicators shall be consistent with water surface readings on the computer.

Figure 1. Rock Island Dam general site plan.